



**Electro-Voice®**  
a gulton company

## Model 645TR

### Dynamic Microphone Element

#### SPECIFICATIONS

##### Element:

Dynamic

##### Frequency Response:

300 to 3,500 Hz  $\pm$  3 dB

##### Polar Pattern:

Cardioid

##### Load Impedance:

100 ohms or higher

##### Output Level:

-45 dB (0 dB = 1 volt/microbar)

##### Diaphragm:

Electro-Voice Acoustalloy®

##### Average Random Noise Discrimination:

9 dB @ 1,000 Hz

15 dB @ 500 Hz

##### DC Characteristics:

Approximates a 150 ohm fixed, linear, bilateral resistor.

Maximum current 60 mA (9 volts)

Minimum current 10 mA (1.5 volts)

Not polarity sensitive

##### Operating Temperature:

-40°C (-40°F) to

+66°C (+150°F)

#### DESCRIPTION & APPLICATION

The Electro-Voice Model 645TR is a dynamic noise-cancelling microphone element designed to be mechanically and electrically interchangeable with the type T-1 carbon microphone used in the standard Western Electric type telephone. This conversion allows the effective use of the standard telephone in noisy environments. The frequency

response of the microphone is specially tailored to provide highest intelligibility and to take advantage of the maximum noise cancelling characteristics of this type of microphone. The 645TR is also useful in promoting telephone privacy in that the transmission of background sounds, such as other conversations in the same room, are greatly attenuated. The built-in electronic circuitry is not affected by polarity changes on the telephone lines and its voltage requirement is such that the microphone will function effectively down to 2 volts. This condition might be encountered where several telephones have been wired in parallel or on long rural lines.

#### INSTALLATION

The installation of the 645TR can be accomplished in about ten seconds. The mouthpiece and carbon element of the standard telephone is unscrewed and removed and the replacement 645TR with its own mouthpiece is screwed in its place.

#### USE

For proper operation the lips of the user must be no more than ¼" from the front opening of the microphone. The microphone diaphragm is open on both sides so that sounds originating at distances greater than ¼" to ½" push nearly equally on opposing sides of the diaphragm preventing movement. When close talking there is enough difference in pressure between the front of the diaphragm and the rear that diaphragm motion occurs with resultant output.

#### WARRANTY (Limited) —

Electro-Voice General Purpose Microphones are guaranteed without time limit against malfunction in the acoustic system due to defects in workmanship and materials (Any active electronics incorporated in a microphone is guaranteed for three years from date of original purchase against such malfunction.) If such malfunction occurs, microphone will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish, appearance items, cables, cable connectors, or switches and does not cover malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For repair information and service locations, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone 616/695-6831) or 7473 Avenue 304, Visalia, CA 93277 (209/625-1330-1).

Electro-Voice also maintains complete facilities for non-warranty service of E-V products.

Specifications subject to change without notice.